

AMENDMENT TO THE CLAIMS

Please amend claims 1, 4, 8, 9, 13, 18 and 19 to read as follows:

1. (Currently Amended) A method for coordinating operation modes of a GPRS network in which a mobile subscriber is registered for communications services, comprising:

transmitting ~~a network paging messages~~ to the mobile subscriber via according to one of a plurality of network operation modes, including a primary network operation mode and a secondary network operation mode, the paging messages including switched circuit paging messages and GPRS paging messages;

if a failure condition occurs in the primary network operation mode, automatically switching the network operation mode of the GPRS network to ~~a the~~ secondary network operation mode; and

if the primary network operation mode is recovered, switching the operation mode of the network back to the primary network operation mode.

2. (Original) The method of claim 1, further comprising storing a registered preferred list of network operation modes selected by the mobile subscriber.

3. (Original) The method of claim 1, wherein the primary network operation mode is a first network operation mode (NOM1) of the GPRS network.

4. (Currently Amended) The method of claim 3, wherein ~~the network paging messages is~~ are transmitted from a mobile switching center (MSC) to a base station controller (BSC) through a Serving GPRS Support Node (SGSN), and then to the mobile subscriber.

5. (Original) The method of claim 1, wherein the secondary network operation mode is a second network operation mode (NOM2) of the GPRS network.

6. (Original) The method of claim 1, further comprising:
switching the operation mode of the network to a third-preferred network operation mode when the secondary operation mode is failed.

7. (Original) The method of claim 6, wherein the third-preferred operation mode is a third network operation mode (NOM 3) of the GPRS network.

8. (Currently Amended) A method for coordinating operation modes of a GPRS network in which a mobile subscriber subscribes for communications service, comprising:

transmitting a ~~network-paging~~ messages to a mobile subscriber, the paging messages including switched circuit paging messages and GPRS paging messages, wherein the ~~network-paging~~ messages ~~is-are~~ sent, based on a preference of the mobile subscriber, via one of a first ~~operation~~-routing and a second routing, wherein in the first routing, the ~~network-paging~~ messages ~~is-are~~ sent via a first interface and a second interface, and in the second routing, the ~~network-paging~~ messages ~~is-are~~ sent via a third interface,

if the first routing is unavailable for transmitting the network message due to a failure in one or both of the first interface and the second interface, transmitting the ~~network-paging~~ messages to the mobile subscriber via the second routing; and

after the first routing is recovered, transmitting further ~~network-paging~~ messages to the mobile subscriber via the first routing.

9. (Currently Amended) The method of claim 8, wherein in the first routing, the ~~network-paging~~ messages ~~is-are~~ sent via one of circuit-switched and packet-switched channels, and in the second routing, the ~~network-paging~~ messages ~~is-are~~ sent via the circuit-switched channels.

10. (Original) The method of claim 8, wherein the first interface is between a mobile switching center (MSC) and a Serving GPRS Support Node (SGSN), the second interface is between the SGSN and a base station controller (BSC), and the third interface is between the MSC and the BSC.

11. (Original) The method of claim 8, further comprising resetting a BTS Virtual Circuit Identifier (BVCI) when the first routing is available.

12. (Original) The method of claim 11, wherein the reset of the BVCI is initiated by either a SGSN when the first interface is available or by a BSC when the mobile subscriber wishes to transmit signals via the first routing.

13. (Currently Amended) The method of claim 10, wherein in the first routing, when the first interface is unavailable, the method comprises:

transmitting a failure indication message from the SGSN to the BSC indicating that the first interface is unavailable;

receiving a failure acknowledge message from the BSC and switching the operation mode of the network to the second routing; and

the MSC transmitting ~~the network~~ paging messages to the mobile subscriber via the third interface.

14. (Previously Presented) The method of claim 13, further comprising: when the first interface is recovered, the SGSN sending a recovered message to the BSC indicating that the first interface is recovered;

the BSC responding to the recovered message and switching the operation mode to the first routing; and

the MSC transmitting the further network messages to the mobile subscriber via the first and second interfaces.

15. (Previously Presented) The system of claim 13, further comprising:

sending a BTS (base transceiver station) virtual circuit identity (BVCI)-block signal from the SGSN to the BSC; and

the BSC responding to the BVCI-block signal by sending a BVCI-block-acknowledge signal and switching the operation mode of the network to the second routing.

16. (Original) The method of claim 8, when the second routing is selected as a primary operation mode and the first routing is available, further comprising:

transmitting a first-interface indication message indicating that the first interface is available;

responding to the first-interface indication message, transmitting an acknowledge signal confirming that the second routing process is preferred; and

transmitting a block message to block the first interface to ensure that the network message is sent to the mobile subscriber via the third interface.

17. (Original) The method of claim 16, further comprising:

transmitting a BVCI-unblock message indicating that the first interface is available; and

responding to the BVCI-unblock message, transmitting a BVCI-block signal to block the first interface to ensure that the network message is sent to the mobile subscriber via the third interface.

18. (Currently Amended) The method of claim 17, wherein when the mobile subscriber wishes to use the first routing process,

transmitting a first-routing request message from the mobile subscriber to request for a connection to the first routing process;

responding to the request message and transmitting a unblocked message to unblock the first-interface; and

~~transmitting/receiving packet signals to/from the mobile subscriber via the first routing process~~ or receiving packet signals from the mobile subscriber via the first routing process.

19. (Currently Amended) A system for coordinating operation modes of a GPRS network, the system comprising:

a mobile station controller (MSC) for transmitting packet signals to the mobile subscriber via the first routing process or receiving packet signals from the mobile subscriber via the first routing process~~transmitting/receiving calls to/from the mobile subscriber;~~

a base station control center (BSC) for managing the calls transmitted/received to/from the mobile subscriber;

a Serving GPRS support node (SGSN) located between the BSC and the MSC; and

a database for storing a preferred list of network operation modes of the GPRS network ~~that for which the mobile subscriber registers for;~~

the MSC, BSC and SGSN configured to route paging messages to the mobile subscriber according to a current network operation mode;

the MSC, BSC and SGSN configured to switch the current network operation mode from a primary network operation mode to a secondary network operation mode when a failure prevents routing of paging messages in the primary operation mode; and

the MSC, BSC and SGSN configured to switch the current network operation mode from the secondary network operation mode to the primary network operation mode upon a clearing of the failure preventing the routing of paging messages in the primary operation mode.

~~wherein the operation modes of the GPRS network are automatically switched according to the registered preferred list of operation modes based on an interface status between the MSC and the SGSN.~~

20. (Previously Presented) The system of claim 19, wherein the preferred list of network operation modes stored in the database is accessible by the BSC.

21. (Original) The system of claim 19, wherein the SGSN reports a change of the status of the interface between the SGSN and the MSC to the BSC so that the BSC decides what network operation mode to use based on the preferred list stored in the database.